

CHAPTER 9

Scenic Resources

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The visual landscape of the Tahoe Region is one of its most impressive and memorable qualities. It possesses a striking combination of rugged mountain peaks, a vast lake surface, and densely forested slopes. These landscape elements work in concert to produce a visual impression that makes the Lake Tahoe Basin one of the truly unique places in the world. Despite significant development and alteration of the landscape for over a century, the Tahoe Region continues to attract visitors due to its powerful and stunning inherent landscape character, which successfully maintains visual dominance over most of the area. It is the view of natural landscapes and features offered from the Region's scenic corridors, recreation areas, and bike trails that the framers of the *Bi-State Compact* intended to preserve when they declared, *"Maintenance of the social and economic health of the region depends on maintaining the significant scenic ... values provided by the Lake Tahoe Basin."*

This chapter provides an evaluation of current scenic conditions and trends in the Lake Tahoe Basin. The evaluation assesses changes in scenic conditions relative to TRPA Threshold Standards. According to TRPA Resolution 82-11, TRPA has adopted Environmental Threshold Carrying Capacities for Scenic Resources, including Numerical Standards for Roadway and Shoreline Travel Units, Numerical Standards for Other Areas, and a Policy Statement for the Built Environment. They are represented by Travel Route Ratings (Roadway and Shoreline Travel Units), Scenic Quality Ratings (Roadway and Shoreline Travel Units), Public Recreation Areas and Bike Trails, and Community Design. This evaluation addresses the status of all Numerical Standards and the Policy Statement, as have past Threshold Evaluations.

Table 9-1. Summary of adopted Threshold Standards for the Scenic Resources Threshold Category

| Indicator Reporting Category | Standard | Type of Standard | Indicator |
|-------------------------------------|---|------------------|------------------------|
| Roadways and Shoreline Units | <p>Maintain or improve the numerical rating assigned to each unit, including the scenic quality rating of the individual resources within each unit, as recorded in the Scenic Resources Inventory and shown in Tables 13-3, 13-5, 13-8 and 13-9 of the Draft Study Report.</p> <p>Maintain the 1982 ratings for all roadway and shoreline units as shown in Tables 13-6 and 13-7 of the Draft Study Report.</p> <p>Restore scenic quality in roadway units rated 15 or below and shoreline units rated 7 or below.</p> | Numerical | Composite Scenic Score |
| Other Areas | Maintain or improve the numerical rating assigned to each identified scenic resource, including individual subcomponent numerical ratings, for views from bike paths and other recreation areas open to the general public as recorded in the 1993 Lake Tahoe Basin Scenic Resource Evaluation. | Numerical | Composite Scenic Score |
| Built Environment | It shall be the policy of the TRPA Governing Body in development of the <i>Regional Plan</i> , in cooperation with local jurisdictions, to insure the height, bulk, texture, form, materials, colors, lighting, signing and other design elements of new, remodeled and redeveloped buildings be compatible with the natural, scenic, and recreational values of the region. | Policy Statement | Evaluation Criteria |

Roadway and Shoreline Units

This Indicator Reporting Category includes an evaluation and rating of scenic condition associated with: 1) Roadway Travel Units (or roadway corridors), 2) vista points within each Roadway Travel Unit (or Roadway Scenic Quality Ratings), 3) Shoreline Travel Units (or shoreline corridors), and 4) vista points within each Shoreline Travel Unit (or Shoreline Scenic Quality Ratings).

Travel Route Ratings for Roadway Travel Units

The travel route ratings are used to assess the visual experience of traveling the Region's major roads, including all state and federal highways and Pioneer Trail. These roadways are separated into 54 travel segments (called travel units), each of which represents a continuous, two-directional viewshed of similar visual character. When monitoring is conducted, updated travel route ratings are generated that reflect current conditions. Travel route ratings consist of a numeric composite index (score) that represents the relative scenic quality within and throughout the entire travel unit. Each travel unit must achieve a minimum composite score (i.e., Threshold Standard) to be determined "in attainment." Thus, there are 54 Threshold Standards associated with Roadway Travel Units.

The following aspects are considered and rated according to their effect on scenic quality:

1. Man-made features along the roadway and shoreline
2. Physical distractions to driving along the roadways
3. Roadway characteristics
4. View of the Lake from the roadways
5. General landscape views from the roadways and shoreline
6. Variety of scenery from the roadways and shoreline







Roadway travel unit ratings reflect all six aspects. Each aspect is rated from one (has a strong negative effect on scenic quality) to five (has a strong positive effect on scenic quality). A composite rating is obtained by summing the ratings of the six aspects. Therefore, the composite rating for an individual roadway travel unit can range from five to 30. The aspects themselves cannot be quantitatively measured in the strictest sense as, for example, the chemical constituents of water samples or ambient noise levels can. They are, by nature, qualitative characteristics that are assigned relative numerical ratings based on direct observation by qualified scenic quality experts. They are not measured with instrumentation. Instead, field researchers make direct visual observations of their characteristics, attributes, or conditions and then record their observations.

In 1982, when the scenic threshold system was implemented, there were 46 individual roadway travel units that were identified and mapped. The units were evaluated according to the six aspects listed above, and composite ratings were calculated. The officially adopted Numerical Threshold Standard for roadway travel units today is 15.5, 0.5 higher than it was originally. To be in attainment with the Threshold Standard, the current composite rating of each roadway travel unit must be at least 15.5, and must also be at least equal to the rating originally assigned in 1982. Therefore, if the current rating for a roadway travel unit is below the standard of 15.5, the unit is considered to be out of attainment. Additionally, if the current rating is below its original 1982 rating - even though the current rating is above 15.5, the unit is considered to be out of attainment.

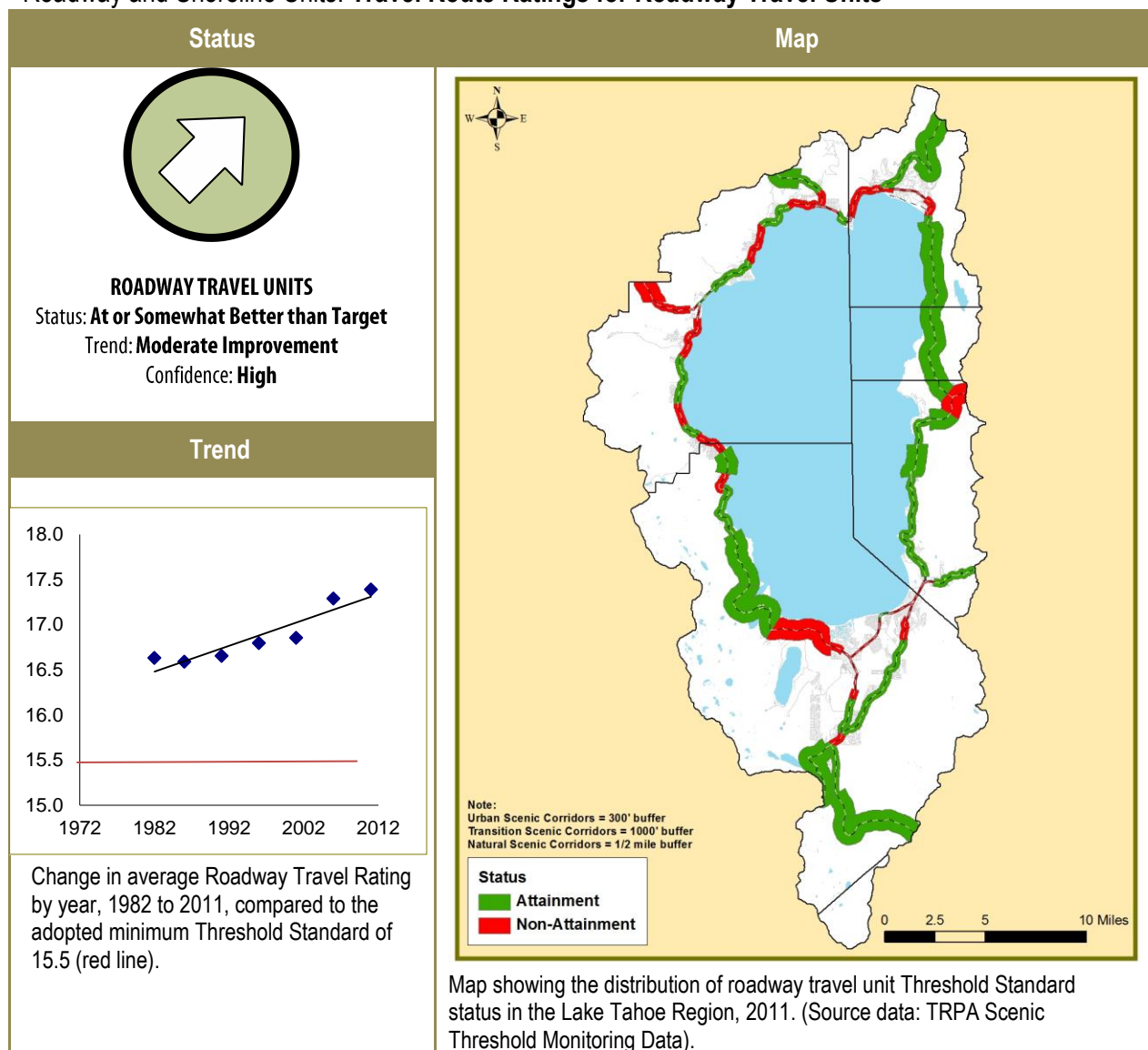
In 1982, 23 of the 46 roadway travel units (50 percent) were rated below 15.5. Today there are 54 Roadway Travel Units. That is because some of the original units have been subdivided due to changes in their visual character since 1982. Of the 54 roadway travel units evaluated in 2011, 21 (39 percent) were currently out of attainment; 17 because they fail to meet the Threshold Standard of 15.5, and four because their current rating is above 15.5, but lower than the original rating that was assigned. In 2011, 36 roadway units had a rating higher than their original 1982 rating, 13 had a rating equal to the 1982 rating, and five had a rating lower than the 1982 rating.

Table 9-2 below provides a summary of current Roadway Travel Unit status and trend determinations. It shows that nine units have scores that are at or somewhat better than the Threshold Standard, and show a trend of moderate improvement. An additional 24 units have scores that are at or somewhat better than the Threshold Standard, and are stable with little or no change. There are six units with scores that are slightly below the Threshold Standard, but show a trend toward improvement. There are 14 units with scores that are slightly below the Threshold Standard, and are stable with little or no change. There is one unit with a score that is considerably worse than the Threshold Standard and shows little or no change.

Table 9-2. Summary of the current status and trend determinations for all roadway travel units in the Lake Tahoe Region, 2011 based on the evaluation period 1982 through 2011.

| | |
|---|---|
|  | Unit 3, Unit 4, Unit 6, Unit 8, Unit 12, Unit 20c, Unit 23, Unit 24, Unit 26, Unit 27, Unit 30a, Unit 30b, Unit 37, Unit 38, Unit 39, Unit 41 |
|  | Unit 1, Unit 7, Unit 9, Unit 13, Unit 45 |
|  | Unit 2, Unit 5, Unit 10, Unit 29, Unit 30c, Unit 34, Unit 40, Unit 46 |
|  | Unit 11, Unit 17, Unit 20a, Unit 20d, Unit 21, Unit 25, Unit 28, Unit 32, Unit 43 |
|  | Unit 14, Unit 15, Unit 16, Unit 18, Unit 19, Unit 31, Unit 44 |
|  | Unit 22, Unit 33, Unit 42 |
|  | Unit 30d, Unit 36b |
|  | Unit 20b, Unit 36a, Unit 36c |
|  | Unit 35 |

Roadway and Shoreline Units: Travel Route Ratings for Roadway Travel Units



Data Evaluation and Interpretation

Relevance – This indicator tracks long-term, cumulative changes in scenic conditions along major roadways in the Region. It accounts for the urban, transitional, and natural landscapes that the roads pass through. Tracking these changes is important because it provides a measure of how changes in land use and development over time affect scenic conditions. Today, scenic conditions along Lake Tahoe's major roadways are, on average, better than they were in 1982. The trend has been an improvement in conditions since 1991.

Threshold Category – Scenic Resources

Indicator Reporting Category – Travel Route Ratings

Adopted Standards – To secure threshold attainment, the composite score of those roadway travel routes with a 1982 score of 15.5 or greater must be maintained at the level they were in 1982, and the composite score of all roadway travel routes with a 1982 score of 15 or less, must improve until the minimum score of 15.5 is reached.

Type of Standard – Numerical

Indicator (Unit of Measure) – Roadway Travel Unit Composite score, which is a unit-less, numerical rating consisting of the sum of the ratings given to six different aspects of the landscape within each travel unit.

Status – As of 2011, 33 of the 54 (61 percent) Roadway Travel Units were determined to meet the Threshold Standard, while 21 (39 percent) did not. Of the 54 units, it was determined that zero percent are “considerably better than target,” 61 percent are “at or somewhat better than target,” 37 percent are “somewhat worse than target,” and two percent were “considerably worse than target.” When scenic evaluation units were aggregated according to the methods outlined in the methodology section of this report, the overall average status score of roadway travel units was = 0 and consequently determined to be “somewhat better than target.”

Trend – In 1982, when Scenic Threshold Standards were first adopted, there were 23 Roadway Travel Units out of a total of 46 (50 percent) that did not meet the minimum standard. Of the 54 current units, it was determined that zero percent were in “rapid improvement,” 28 percent were in “moderate improvement,” 72 percent were in “little or no change,” zero percent were in “moderate decline,” and zero percent were in “rapid decline.” When scenic evaluation units were aggregated according to the methods outlined in the methodology section of this report, the overall average aggregation score for trend of roadway travel units was = 1 and consequently determined as “moderate improvement.” Since 1982, scenic conditions in nine of the original non-attainment units have improved such that the composite score now equals or exceeds the Threshold Standard.

Confidence –

Status – A documented, reviewed, and accepted monitoring protocol was used to guide the collection, analysis, and reporting of the scenic monitoring data. It was collected according to procedures outlined in the 1982 *Study Report for the Establishment of Environmental Threshold Carrying Capacities* (TRPA 1982b), and the *Status and Trend Monitoring Report (DRAFT) for Scenic Resources in the Lake Tahoe Basin* (TRPA 2010), which set forth a methodology for measuring change in scenic quality over time. The methods are consistent with those employed by the U.S. Forest Service, and are considered standard practice. This equates to a “high” confidence determination for status.

Trends – Basin-wide monitoring of travel route ratings occurred in 1971, 1982, 1986, and as part of the 1991, 1996, 2001, 2006, and 2011 Threshold Evaluations. This represents the most extensive and well-documented chronology of change to resources available within TRPA's entire threshold-related monitoring record outside of Lake Tahoe monitoring efforts. Consequently, overall confidence in trend determination is “high.”

Overall Confidence – Because there is high confidence in the determination of both status and trend, a “high” determination is assigned to the overall status and trend determination.

Interim Target – Currently 21 of the 54 roadway travel units do not meet the Threshold Standard. The interim target is to increase the number of roadway travel units meeting the minimum composite score by at least two units by 2016.

Target Attainment Date – Roadway units that are currently out of attainment occur primarily in communities of moderate to high density development that are governed by local agencies. Achievement of this Threshold Standard is substantially dependent on partner agencies' commitment to facilitating scenic improvements on the ground, and private landowners willingness to adhere to established design and development guidelines. Thus, it is not possible to estimate an attainment date for this standard.

Human and Environmental Drivers – The primary drivers affecting scenic quality in the Lake Tahoe basin are land use, land and resource management activities, and the visual/aesthetic characteristics of manmade development.

Monitoring Approach – Field surveys are conducted every five years by a team of qualified professionals (using established protocols), to examine and evaluate scenic conditions along major roadways in the Basin, the shoreline of Lake Tahoe, and at public recreation sites and bike trails. Ratings from prior evaluations are reviewed. Updated ratings are assigned as warranted, based on current conditions.

Monitoring Partners – U.S. Forest Service and Tahoe Regional Planning Agency

Programs and Actions Implemented to Improve Conditions – The *Code of Ordinances* specifies design standards and

guidelines for new development and redevelopment projects. Community Plans provide specific guidance on design applicable to local areas. The Scenic Quality Improvement Program identifies a host of projects (actions) that are necessary to improve scenic conditions where needed, in order to facilitate achievement of adopted scenic Threshold Standards. As necessary, specific measures to improve the aesthetics of individual projects are sometimes required by TRPA as a condition of the permit that is issued.

Effectiveness of Programs and Actions – Scenic status and trend data for this indicator (at or somewhat better than target with moderate improvement) suggests that currently implemented programs (e.g., EIP) and actions implemented (e.g., updated building design standards), overall, have improved scenic conditions. However, some units remain out of attainment and need to be addressed.

Recommendations for Additional Actions – Continue existing programs and actions. Continue to monitor status and trend of scenic conditions.

Scenic Quality Ratings for Roadway Travel Units

In contrast to travel route ratings which reflect the positive or negative effects of certain physical characteristics of the landscape on scenic quality throughout an entire travel unit, the scenic quality rating for roadway travel units is a composite score for specific, individual views, or features of the landscape, referred to as scenic resources, seen from a specific location within a given roadway travel unit. These specific views or features are defined, documented, and mapped by TRPA. A total of 209 scenic resources are associated with, or seen from within roadway travel units. Monitoring involves generating updated scenic quality ratings that reflect current conditions. Scenic quality is measured by rating each of four subcomponents, and summing the values to produce a composite score (scenic quality rating). The following visual characteristics comprise the subcomponents. These characteristics are well documented in academic and professional literature as useful and objective measures of relative scenic value:

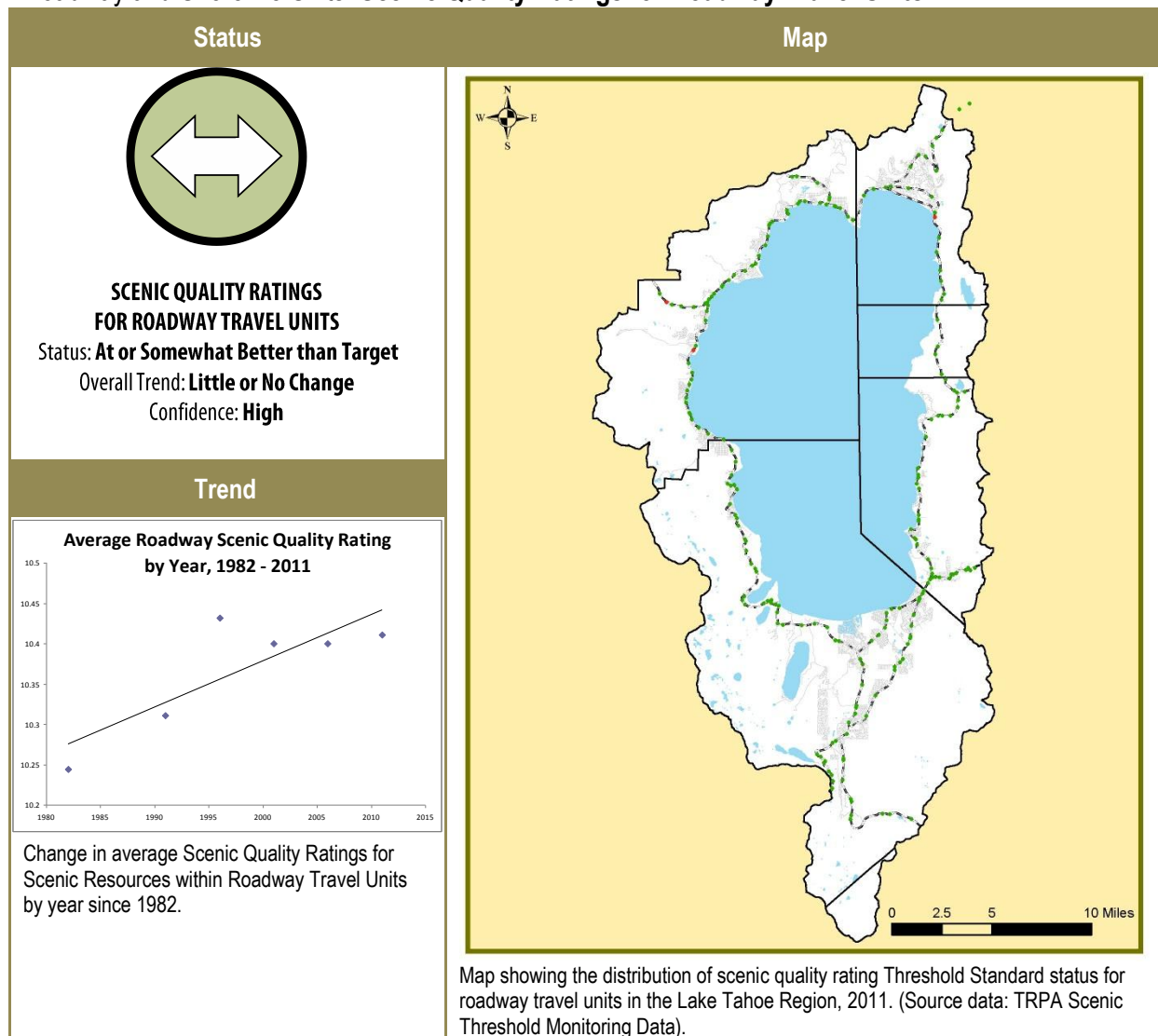
- Unity
- Vividness
- Variety
- Intactness

Each characteristic is rated from zero (absent) to three (high). A composite rating is obtained by summing the ratings of the four characteristics. Therefore the composite rating for an individual shoreline scenic resource can range from zero to 12.

In 1982, an inventory of scenic resources in the Lake Tahoe Basin was conducted. At that time, a total of 205 scenic resources were identified. Since then, three scenic resources have been added to the inventory. The resources were mapped and evaluated according to the procedure described above. A composite score for each resource was calculated by summing the ratings assigned to each of four sub-components. The 1982 composite score of each resource was adopted as the Numerical Standard for that resource. To be in attainment, the original score determined for each scenic resource must be maintained. Over time, if the composite score for any resource, or the score of any of its sub-components drops below what it was in 1982, the resource is considered to be out of attainment. It remains out of attainment until conditions improve, and the score returns to the original rating, or higher.

Of the 208 identified and mapped scenic resources associated with roadway travel units, 205 (98 percent) have composite scores equal to, or greater than their original scores, and are, therefore, in attainment with the Threshold Standard. Seven have scores that are considerably better than the target, while three are somewhat worse than the target. Overall, 92 percent of roadway scenic resources show little or no change in their composite ratings, and five percent show a moderate improvement.

Roadway and Shoreline Units: Scenic Quality Ratings for Roadway Travel Units



Data Evaluation and Interpretation

Relevance – This indicator tracks changes in scenic quality of 208 specific scenic resources associated with roadway travel units. Tracking these changes is important because it provides a measure of how changes in land use and development over time affect these resources. Today, the scenic quality of roadway scenic resources is very nearly the same as it was in 1982. The trend has been for very little change in conditions since 1982.

Threshold Category – Scenic Resources

Indicator Reporting Category – Roadway Scenic Quality Ratings

Adopted Standards – To secure threshold attainment, the composite score of each roadway scenic resources must meet or exceed the composite scenic score identified in TRPA (1982b).

Type of Standard – Numerical

Indicator (Unit of Measure) – Scenic Quality Composite score, which is a unit-less, numerical rating consisting of the sum of the ratings given to four different visual characteristics.

Status – As of 2011, 205 of the 208 Roadway Scenic Resources (99 percent) meet the Threshold Standard. The overall average of aggregated scores for Roadway Scenic Resources was = 2, resulting in a determination of “at or somewhat better than target”.

Trend – The overall average aggregation score for roadway scenic quality ratings was = 0, resulting in a determination of “little or no change.”

Confidence –

Status – A documented, reviewed, and accepted monitoring protocol was used to guide the collection, analysis, and reporting of the scenic monitoring data. It was collected according to procedures outlined in the 1982 *Study Report for the Establishment of Environmental Threshold Carrying Capacities* (TRPA 1982b) and *Status and Trend Monitoring Report (DRAFT) for Scenic Resources in the Lake Tahoe Basin* (TRPA 2010), which set forth a methodology for measuring change in scenic quality over time. The methods are consistent with those employed by the U.S. Forest Service, and are considered standard practice. This equates to a “high” confidence determination for status.

Trends – Basin-wide monitoring of scenic quality ratings occurred in 1982, and as part of the 1991, 1996, 2001, 2006, and 2011 Threshold Evaluations. Consequently, confidence in trend determination is “high.”

Overall Confidence – Because there is high confidence in the determination of both status and trend, a “high” determination is assigned to the overall status and trend determination.

Interim Target – There is no need to establish interim targets for this indicator since the target is 98 percent attained.

Target Attainment Date – The standard was determined to be in attainment, and therefore no target attainment date was identified.

Human and Environmental Drivers – The primary drivers affecting scenic quality in the Lake Tahoe Basin are land use, land and resource management activities, and the visual/aesthetic characteristics of manmade development.

Monitoring Approach – Field surveys are conducted every five years by a team of qualified professionals (using established protocols), to examine and evaluate scenic quality of scenic resources along major roadways in the Basin, the shoreline of Lake Tahoe, and at public recreation sites and bike trails. Ratings from prior evaluations are reviewed. Updated ratings are assigned as warranted, based on current conditions.

Monitoring Partners – U.S. Forest Service and Tahoe Regional Planning Agency

Programs and Actions Implemented to Improve Conditions – The *Code of Ordinances* specifies design standards and guidelines for new development and redevelopment projects. In 2002, Chapter 36 of the *Code of Ordinances* was amended to include the means to protect shoreline areas from scenic degradation due to development. This amendment is known as the Shoreland Ordinance. The Scenic Quality Improvement Program identifies a host of projects (actions) necessary to improve scenic conditions in areas where needed, to facilitate achievement of adopted scenic threshold targets. As necessary, specific measures to improve the aesthetics of individual projects are required by TRPA as a condition of the permit that is issued.

Effectiveness of Programs and Actions – Scenic status and trend data for this indicator (at or somewhat better than target with little or no change) suggests that currently implemented programs (e.g., EIP) and actions (e.g., updated building design standards) have, overall, improved scenic conditions. However, some units remain out of attainment and need to be addressed.

Recommendations for Additional Actions – Continue existing programs and actions. Continue to monitor status and trend of scenic conditions.

Shoreline Travel Units

The shoreline travel unit rating reflects scenic conditions looking toward the shore from the surface of Lake Tahoe. The Lake's entire 72-mile shoreline is separated into 33 individual units, each representing a portion of the shoreline (of varying length) that exhibits similar visual character. Updated travel route ratings are generated during monitoring activities that reflect current conditions. Travel route ratings consist of a numeric composite index (score) that represents the relative scenic quality within and throughout the entire travel unit. The following aspects are considered and rated for shoreline travel units:

1. Man-made features along shoreline
2. General landscape views within the shoreline unit
3. Variety of scenery within the shoreline unit








Each aspect is rated from one (low or absent) to five (high). A composite rating is obtained by summing the ratings of the three aspects. Therefore, the composite rating for an individual shoreline travel unit can range from three to 15.

In 1982, when the scenic resources evaluation system was implemented, there were 33 individual shoreline travel units, the same as in 2011 (TRPA 1982b). The officially adopted Numerical Standard for shoreline travel units today is 7.5, 0.5 higher than it was originally. To be in attainment of the Threshold Standard, the current composite rating of any shoreline travel unit must be at least 7.5, and must also be at least equal to the rating originally assigned in 1982. Therefore, if the current rating for a shoreline travel unit is below the standard of 7.5, the unit is considered to be out of attainment. Additionally, if the current rating is below its original 1982 rating, even though the current rating is above 7.5, the unit is considered to be out of attainment.

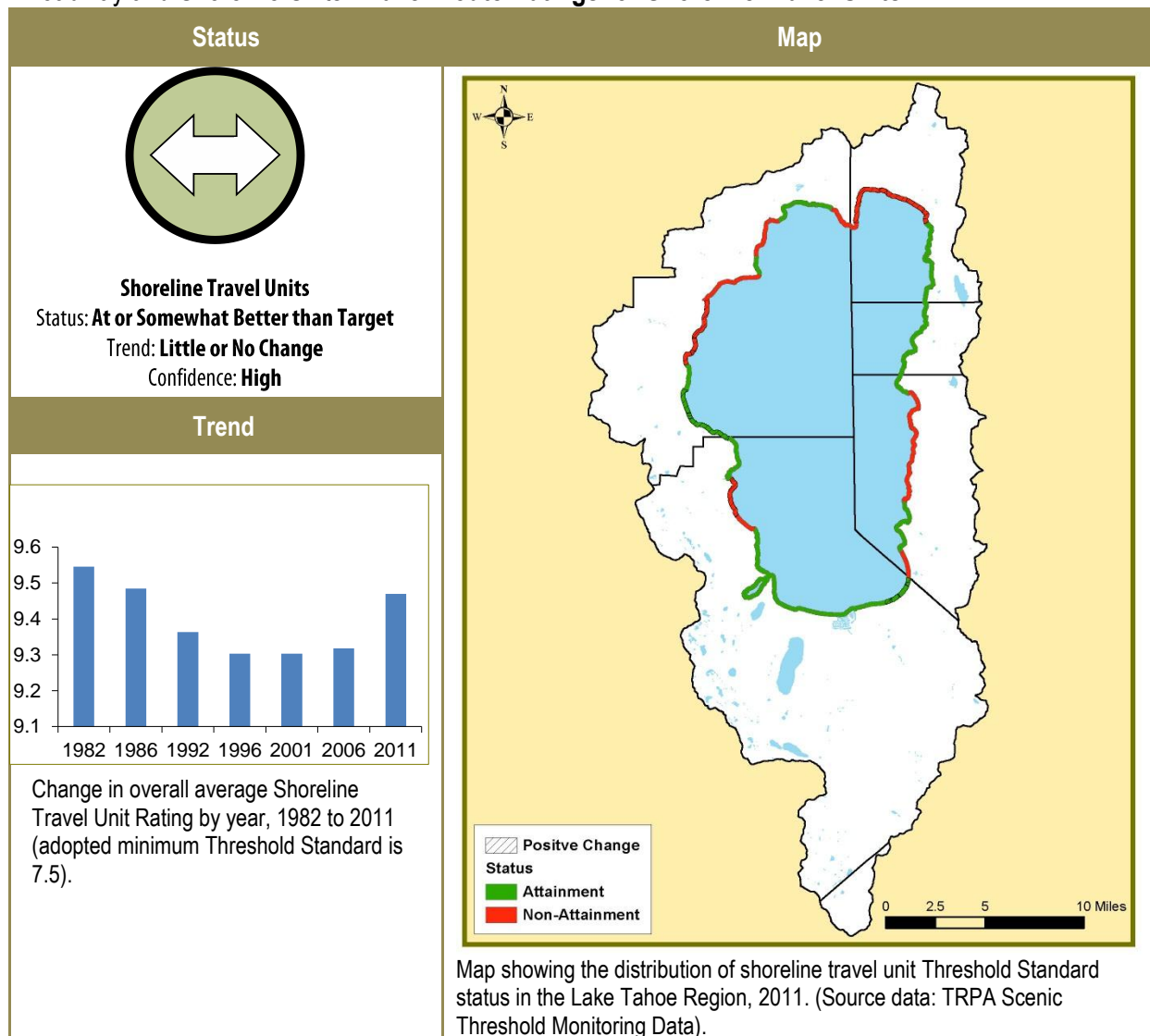
In 1982, four of the 33 shoreline travel units (12 percent) were rated below 7.5. In 2011, 12 shoreline units (36 percent) were out of attainment; five because they failed to meet the Threshold Standard of 7.5, and seven because their current rating was 7.5 or above, but lower than the original 1982 rating. In 2011, seven shoreline units had a rating higher than their original 1982 rating, 17 had a rating equal to the 1982 rating, and nine had a rating lower than the 1982 rating.

Table 9-2 below provides a summary of current Shoreline Travel Unit status and trend determinations. It shows that 21 units have scores that meet or are somewhat better than the Threshold Standard, and are stable with little or no change. One unit has a score that is slightly below the Threshold Standard, but shows a trend toward improvement. There are eight units with scores that are slightly below the Threshold Standard and are stable with little or no change. There are two units with scores that are considerably worse than the Threshold Standard, and show little or no change, and one unit with a score that is considerably worse than the Threshold Standard, and shows a trend toward moderate decline.

Table 9-3. Summary of the current status and trend determinations for all shoreline travel units in the Lake Tahoe Region, 2011 based on the evaluation period 1982 through 2011.

| | |
|---|--|
|  | Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6, Unit 7, Unit 10, Unit 11, Unit 13, Unit 17, Unit 21, Unit 24, Unit 25, Unit 28, Unit 29, Unit 31, Unit 32, Unit 33 |
|  | Unit 12, Unit 20 |
|  | Unit 19 |
|  | Unit 8, Unit 14, Unit 18, Unit 22, Unit 26, Unit 27, Unit 30 |
|  | Unit 9 |
|  | Unit 15, Unit 16 |
|  | Unit 23 |

Roadway and Shoreline Units: Travel Route Ratings for Shoreline Travel Units



Data Evaluation and Interpretation

Relevance – This indicator tracks long-term, cumulative changes in scenic conditions along the shoreline of Lake Tahoe. It accounts for developed and natural-appearing shoreline areas. Tracking these changes is important because it provides a measure of how changes in land use and development affect scenic conditions over time. By 1996, scenic conditions along Lake Tahoe's shoreline had declined to levels below what they were in 1982. By 2006, after adoption of new development regulations for shoreline projects, conditions began to improve. The trend has been toward continued improvement in conditions since 2001.

Threshold Category – Scenic Resources

Indicator Reporting Category – Travel Route Ratings

Adopted Standards – To secure Threshold Standard attainment, the composite score of those shoreline travel routes with a 1982 score of 7.5 or greater must be maintained at the level they were in 1982, and the composite score of all shoreline travel routes with a 1982 score of seven or less, must improve until the minimum score of 7.5 is reached.

Type of Standard – Numerical

Indicator (Unit of Measure) – Shoreline Travel Unit Composite score, which is a unit-less, numerical rating consisting of the sum of the ratings given to three different aspects of the landscape within each travel unit.

Status – As of 2011, 21 of the 33 (64 percent) Shoreline Travel Units were determined to meet the unit-specific Threshold Standards while 12 (36 percent) did not. Of the 33 units, it was determined that zero percent are “considerably better than target,” 64 percent are “at or somewhat better than target,” 27 percent are “somewhat worse than target,” and nine percent were “considerably worse than target.” When scenic evaluation units were aggregated according to the methods outlined in the methodology section of this report, the overall average aggregation scores for shoreline travel units was = 0, resulting in a determination of “at or somewhat better than target.”

Trend – In 1982, when Scenic Threshold Standards were first adopted, there were four shoreline travel units out of a total of 33 (12 percent) that did not meet the minimum standard. It was determined in 2011 that zero percent of the 33 units were in “rapid improvement,” three percent were in “moderate improvement,” 94 percent were in “little or no change,” three percent were in “moderate decline,” and zero percent were in “rapid decline.” When scenic evaluation units were aggregated according to the methods outlined in the methodology section of this report, the overall aggregation score for trend in roadway travel units was = 2, resulting in a determination of “moderate improvement.” From 1982 through 1996, scores for shoreline travel units were generally declining. Chapter 36 of the *Code of Ordinances* was amended in 2002 to include what is known as the Shoreland Ordinance to address this issue. Since then, scores for shoreline travel units have been generally improving.

Confidence –

Status – A documented, reviewed, and accepted monitoring protocol was used to guide the collection, analysis and reporting of the scenic monitoring data. It was collected according to procedures outlined in the 1982 *Study Report for the Establishment of Environmental Threshold Carrying Capacities* (TRPA 1982b), and *Status and Trend Monitoring Report (DRAFT) for Scenic Resources in the Lake Tahoe Basin* (TRPA 2010), which set forth a methodology for measuring change in scenic quality over time. The methods are consistent with those employed by the U.S. Forest Service, and are considered standard practice. This equates to a “high” confidence determination for status.

Trends – Basin-wide monitoring of travel route ratings occurred in 1971, 1982, 1986, and as part of the 1991, 1996, 2001, 2006, and 2011 Threshold Evaluations. This represents the most extensive and well-documented chronology of change to resources available within TRPA's entire environmental Threshold Standard evaluation system. Consequently confidence in trend determination is “high.”

Overall Confidence – Because there is high confidence in the determination of both status and trend, a “high” determination is assigned to the overall status and trend determination.

Interim Target – Currently, 12 of the 33 Shoreline Travel Units do not meet the Threshold Standard. The interim target is to increase the number of shoreline units meeting the minimum composite score by at least one unit by 2016.

Target Attainment Date – Shoreline units that are currently out of attainment occur in areas of moderate to high-density development. Achievement of this Threshold Standard is substantially dependent on redevelopment of older structures in compliance with the Shoreland Ordinances that were adopted in 2002. The pace of future redevelopment is unpredictable. Thus, it is not possible to estimate an attainment date for this standard.

Human and Environmental Drivers – The primary drivers affecting scenic quality in the shoreline areas of Lake Tahoe are land use, and the visual exposure and visual/aesthetic characteristics of development.

Monitoring Approach – Field surveys (using established protocols) are conducted every five years by a team of qualified professionals to examine and evaluate scenic conditions along the shoreline of Lake Tahoe, major roadways in the Basin, and at public recreation sites and bike trails. Ratings from prior evaluations are reviewed. Updated ratings are assigned as warranted based on current conditions.

Monitoring Partners – U.S. Forest Service and Tahoe Regional Planning Agency

Programs and Actions Implemented to Improve Conditions – The *Code of Ordinances* specifies design standards and guidelines for new development and redevelopment projects. In 2002, Chapter 36 of the *Code of Ordinances* was amended to include design standards to protect shoreline areas from scenic degradation due to development. This amendment is known as the Shoreland Ordinance. The Scenic Quality Improvement Program identifies a host of projects (actions) that are necessary to improve scenic conditions where needed in order to facilitate achievement of adopted scenic threshold targets. As necessary, specific measures to improve the aesthetics of individual projects are sometimes required by TRPA as a condition of the permit that is issued.

Effectiveness of Programs and Actions – Scenic status and trend data for this indicator, overall (at or somewhat better than target with little or no change), suggests that the programs and actions to improve scenic conditions were inadequate prior to 2001, but those implemented since then (e.g., Shoreland Ordinances) have improved scenic conditions, as evidenced by data from 2006 and 2011.

Recommendations for Additional Actions – Continue existing programs and actions. Continue to monitor status and trend of scenic conditions.

Scenic Quality Ratings for Shoreline Travel Units

The scenic quality rating for shoreline travel units is a composite score of four sub-components that are assessed for specific views or features of the landscape, referred to as scenic resources, when looking from a specific location on the Lake. These specific views or features are defined, documented, and mapped by TRPA. A total of 183 scenic resources are associated with, or viewed from within shoreline travel units. Monitoring involves generating updated scenic quality ratings that reflect current conditions. Scenic quality is measured by rating each of four sub-components, and summing the values to produce a composite score (scenic quality rating). The following visual characteristics comprise the subcomponents. These characteristics are well-documented in academic and professional literature as useful and objective measures of relative scenic value:

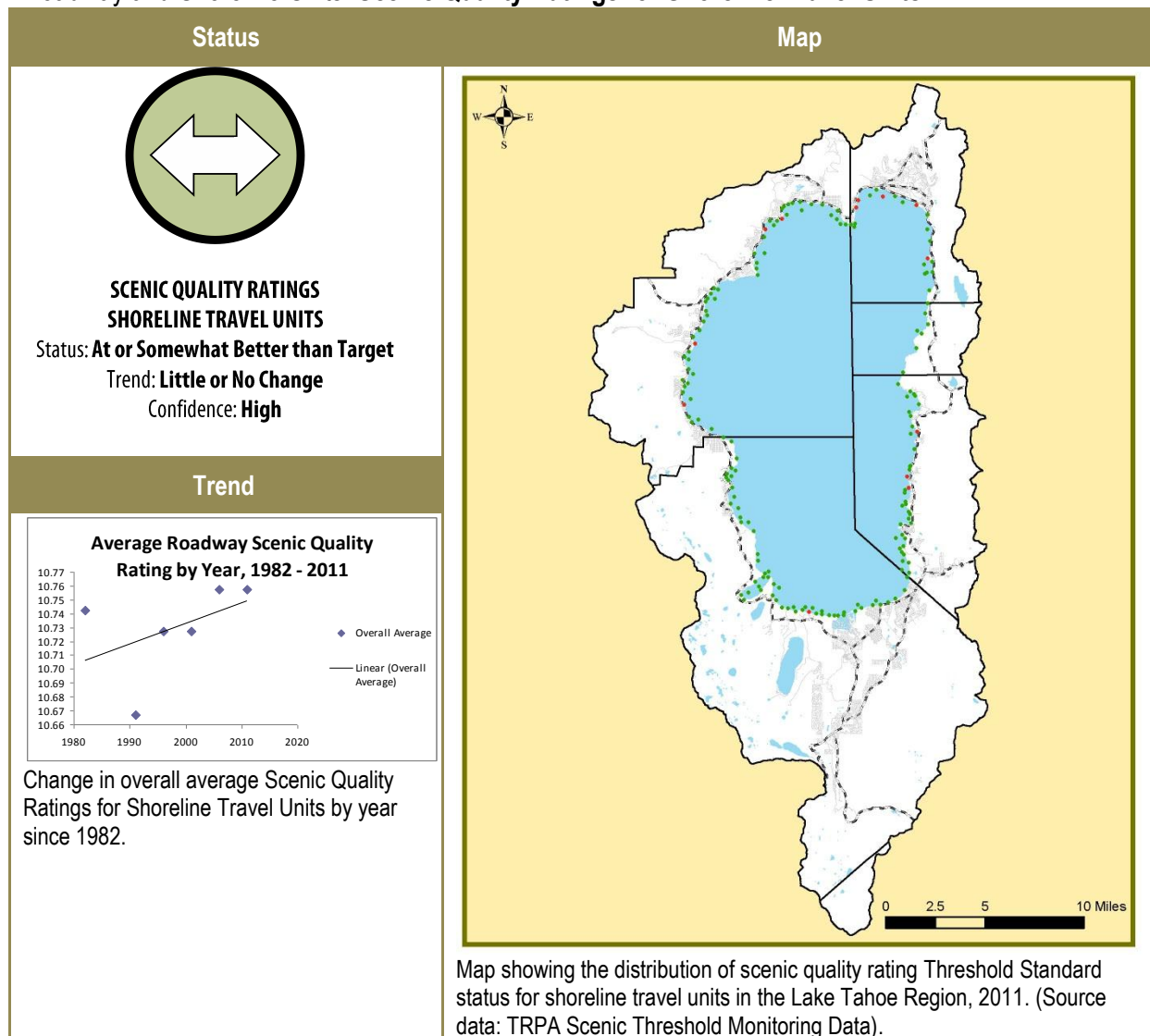
- Unity
- Vividness
- Variety
- Intactness

Each characteristic is rated from zero (absent) to three (high). A composite rating is obtained by summing the ratings of the four characteristics. Therefore the composite rating for an individual shoreline scenic resource can range from zero to 12.

An inventory of scenic resources in the Lake Tahoe Basin was conducted in 1982. At that time, a total of 183 scenic resources were identified. Since then, one scenic resource has been added to the inventory. The resources were mapped and evaluated according to the procedure described above. A composite score for each resource was calculated by summing the ratings assigned to each of four sub-components. The 1982 composite score of each resource was adopted as the Numerical Standard for that resource. To be in attainment, the original score determined for each scenic resource must be maintained. Over time, if the composite score for any resource, or the score of any of its sub-components drops below what it was in 1982, the resource is considered to be out of attainment. It remains out of attainment until conditions improve, and the score returns to the original rating or higher.

Of the 184 identified and mapped scenic resources associated with shoreline travel units, 168 (91.3 percent) have composite scores equal to, or greater than their original scores, and are therefore in attainment with the Threshold Standard. Three have scores that are considerably better than the target, while 13 are somewhat worse than the target, and three are considerably worse. Overall, 92 percent of shoreline scenic resources show little or no change in their composite ratings while three percent show a moderate improvement, four percent show a moderate decline, and one percent show rapid improvement.

Roadway and Shoreline Units: **Scenic Quality Ratings for Shoreline Travel Units**



Data Evaluation and Interpretation

Relevance – This indicator tracks changes in scenic quality of 183 specific scenic resources associated with shoreline travel units. Tracking these changes is important because it provides a measure of how changes in land use and development affect these resources over time. Today, the scenic quality of shoreline scenic resources is about the same as it was in 1982.

Threshold Category – Scenic Resources

Indicator Reporting Category – Shoreline Scenic Quality Ratings

Adopted Standards – To secure Threshold Standard attainment, the composite score of shoreline scenic resources must be at or higher than they were in 1982.

Type of Standard – Numerical

Indicator (Unit of Measure) – Scenic Quality Composite score which is a unit-less, numerical rating consisting of the sum of the ratings given to four different visual characteristics.

Status – As of 2011, 167 of the 183 Shoreline Scenic Resources (92 percent) meet the Threshold Standard. The overall average of aggregated status scores for Shoreline Scenic Resources was 2, resulting in a determination of “at or somewhat better than target.”

Trend – There has been little or no change in trend since 2001. The overall average of aggregated trend scores for Shoreline Scenic Resources was 0, resulting in a determination of “little or no change”.

Confidence –

Status – A documented, reviewed, and accepted monitoring protocol was used to guide the collection, analysis, and reporting of the scenic monitoring data. It was collected according to procedures outlined in the 1982 *Study Report for the Establishment of Environmental Threshold Carrying Capacities* (TRPA 1982b), and *Status and Trend Monitoring Report (DRAFT) for Scenic Resources in the Lake Tahoe Basin* (TRPA 2010), which set forth a methodology for measuring change in scenic quality over time. The methods are consistent with those employed by the U.S. Forest Service, and are considered standard practice. This equates to a “high” confidence determination for status.

Trends – Basin-wide monitoring of scenic quality ratings occurred in 1982, and as part of the 1991, 1996, 2001, 2006, and 2011 Threshold Evaluations. Consequently, confidence in the trend determination was “high.”

Overall Confidence – Because there is high confidence in the determination of both status and trend, a “high” determination is assigned to the overall status and trend determination.

Interim Target – No interim target has been established for this indicator since 92 percent of shoreline scenic resources meet the threshold target.

Target Attainment Date – Since no interim target has been established, there is no target attainment date.

Human and Environmental Drivers – The primary drivers affecting scenic quality in the Lake Tahoe basin are land use, land and resource management activities, and the visual/aesthetic characteristics of manmade development.

Monitoring Approach – Field surveys (using established protocols) are conducted every five years by a team of qualified professionals, to examine and evaluate scenic quality of scenic resources along major roadways in the Basin, the shoreline of Lake Tahoe, and at public recreation sites and bike trails. Ratings from prior evaluations are reviewed. Updated ratings are assigned as warranted based on current conditions.

Monitoring Partners – U.S. Forest Service and Tahoe Regional Planning Agency

Programs and Actions Implemented to Improve Conditions – The *Code of Ordinances* specifies design standards and guidelines for new development and redevelopment projects. In 2002, Chapter 36 of the *Code of Ordinances* was amended to include design standards to protect shoreline areas from scenic degradation due to development. This amendment is known as the Shoreland Ordinance. The Scenic Quality Improvement Program identifies a host of projects (actions) that are necessary to improve scenic conditions where needed to facilitate achievement of adopted scenic threshold targets. As necessary, specific measures to improve the aesthetics of individual projects are required by TRPA as special permit conditions.

Effectiveness of Programs and Actions – Scenic status and trend data for this indicator (at or somewhat better than target with little or no change), particularly after the Shoreland Ordinance was adapted in 2002, suggests that currently implemented programs (e.g., EIP) and actions implemented (e.g., updated building design standards), overall, have improved scenic conditions. However, some units remain out of attainment and need to be addressed.

Recommendations for Additional Actions – Continue existing programs and actions. Continue to monitor status and trend of scenic conditions.

Other Areas

The Other Areas Indicator Reporting Category includes an evaluation of scenic conditions observed at public recreation areas and bike trails.

A total of 382 Threshold Standards are applied to 37 public recreation areas (including beaches, campgrounds, and ski areas), and 11 segments of Class I and Class II bicycle trails. The recreation areas and bike trails are mapped and listed in an inventory maintained by TRPA. Baseline conditions (or Threshold Standards) were established after they were first evaluated in 1993.

The Public Recreation Area and Bike Trails Threshold Standard addresses three general types of scenic resources: (1) views from the recreation area or bicycle trail, (2) views of natural features within the recreation area or along the trail, and (3) visual quality of man-made features within the recreation area or adjacent to the trail. Ratings were generated for all three types. For bicycle trails, lake views are also included and rated. Scenic quality of views from the recreation area or bicycle trail (Type 1 scenic resources) and views of natural features and lake views (Type 2) is measured by rating each of four subcomponents and summing the values to produce a composite score (scenic quality rating). The following visual characteristics comprise the subcomponents:

- Unity
- Vividness
- Variety
- Intactness

Man-made features (Type 3) are rated for the following characteristics:

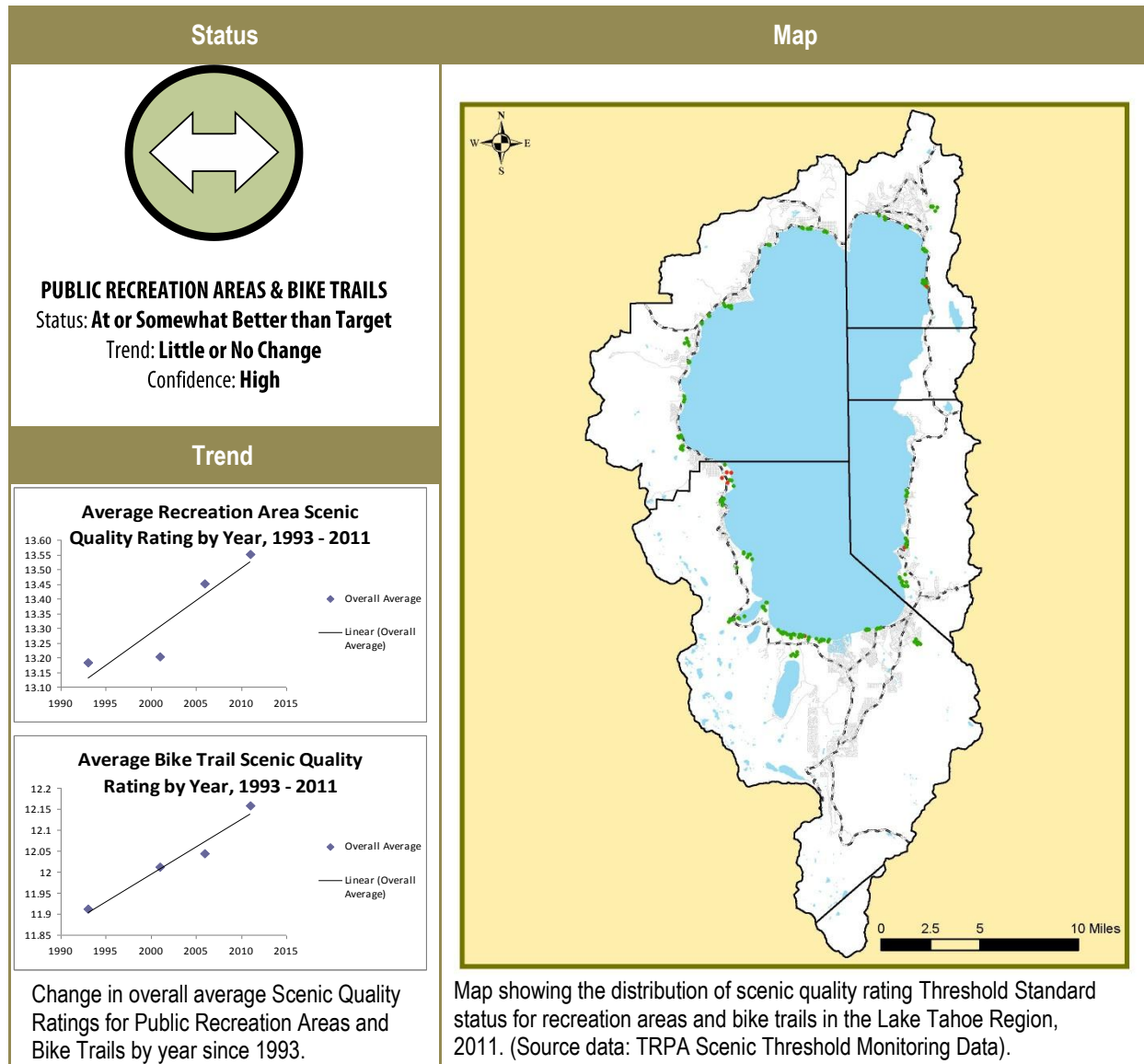
- Coherence – refers to a coordinated appearance of man-made facilities in terms of possessing some unifying characteristic or quality
- Condition – refers to the general physical condition of the man-made elements, and is related to the maintenance and age of the facilities
- Compatibility – refers to the sense of fit between the man-made features and the surrounding natural landscape. Man-made features that are highly compatible blend in with their surroundings and defer to the form, colors, and textures of the natural landscape
- Design quality – refers to the presence of architectural qualities that make the man-made elements distinctive and valued visual features

Each of the recreation areas and bike trails listed in the TRPA inventory and shown on the map is visited in the field. While observing Type 1 and Type 2 scenic resources, the characteristics of unity, vividness, variety, and intactness are assigned a value from one (low) to five (high). Type 3 scenic resources (man-made features) are rated for coherence, condition, compatibility and design quality, according to the same scale (one through five).

An inventory of Type 1, Type 2, and Type 3 scenic resources associated with public recreation areas and bike trails in the Lake Tahoe Basin was conducted in 1993. A total of 382 scenic resources were identified, mapped, and evaluated according to the procedure described above. A composite score for each resource was calculated by summing the ratings assigned to the sub-components. The 1993 composite score of each resource was adopted as the Numerical Standard for that resource. To be in attainment, the original score determined for each scenic resource must be maintained. Over time, if the composite score for any resource drops below what it was originally, the resource is considered to be “out of attainment.” It remains out of attainment until conditions improve such that the score returns to the original rating or higher.

Of the 382 scenic resources associated with public recreation areas and bike trails assessed in 2011, 376 (98.2 percent) had composite scores equal to or greater than their original scores, and are therefore "in attainment" with the Threshold Standard. There were 359 (94 percent) with scores that were "at or somewhat better than the target," 17 (four percent) that were "considerably better than target," 6 (two percent) that were "somewhat worse than target," and none that were "considerably worse than target." Overall, 93 percent of the scenic resources show "little or no change" in their composite ratings, while three percent showed a "rapid improvement," four percent showed a "moderate improvement," and 0.3 percent (one instance) showed a "moderate decline."

Other Areas: Public Recreation Areas and Bike Trails



Data Evaluation and Interpretation

Relevance – This indicator tracks changes in scenic quality of specific scenic resources associated with TRPA-listed public recreation areas and bike trails, and the aesthetic condition of facilities at the recreation sites themselves. Tracking these changes is important because it provides a measure of how changes in land use and development over time affect these resources, and how the aesthetic conditions of recreation facilities affect the visual quality of the area. Today, the scenic quality of scenic resources associated with public recreation sites is very nearly the same as it was in 1993. The trend has been for little change in conditions since then. Changes that have occurred have been mostly beneficial.

Threshold Category – Scenic Resources

Indicator Reporting Category – Other Areas

Adopted Standards – To secure Threshold Standard attainment, the composite score and subcomponent scores of scenic resources associated with public recreation areas and bike trails, must be at, or higher than they were in 1993 when they were first evaluated.

Type of Standard – Numerical

Status – As of 2011, 376 of the 382 Public Recreation Area and Bike Trails Scenic Resources (98 percent) meet the unit-specific Threshold Standard. The overall average of aggregated status scores was = 2, resulting in a determination of “at or somewhat better than target.”

Trend – As of 2011, the scenic quality of scenic resources associated with public recreation sites is nearly the same as it was in 1993. The overall average of aggregated trend scores was = 0, resulting in a determination of “little or no change.” Changes that have occurred have been mostly beneficial as a result of facility improvements.

Confidence –

Status – A documented, reviewed, and accepted monitoring protocol was used to guide the collection, analysis and reporting of the scenic monitoring data. It was collected according to procedures outlined in the 1982 *Study Report for the Establishment of Environmental Threshold Carrying Capacities* (TRPA 1982b), and *Status and Trend Monitoring Report (DRAFT) for Scenic Resources in the Lake Tahoe Basin* (TRPA 2010), which set forth a methodology for measuring change in scenic quality over time. The methods are consistent with those employed by the U.S. Forest Service and are considered standard practice. This equates to a “high” confidence determination for status.

Trends – Basin-wide monitoring of scenic quality and scenic resources associated with public recreation areas and bike trails, occurred in 1993, and as part of the 1996, 2001, 2006, and 2011 Threshold Evaluations. Consequently, confidence in trend determination is “high.”

Overall Confidence – Because there is high confidence in the determination of both status and trend, a “high” determination is assigned to the overall status and trend determination.

Indicator (Unit of Measure) – Scenic Quality Composite score, which is a unit-less, numerical rating, consisting of the sum of the ratings given to four different visual characteristics.

Interim Target – No interim target has been established, since 98 percent of the scenic resources associated with public recreation areas and bike trails meet the Threshold Standard target.

Target Attainment Date – The standard was determined to be in attainment, thus there is no target attainment date.

Human and Environmental Drivers – The primary drivers affecting scenic quality in the Lake Tahoe Basin are land use, land and resource management activities, and the visual/aesthetic characteristics of manmade development.

Monitoring Approach – Field surveys (using established protocols) are conducted every five years by a team of qualified professionals, to examine and evaluate scenic quality of scenic resources along major roadways in the Basin, the shoreline of Lake Tahoe, and at public recreation sites and bike trails. Ratings from prior evaluations are reviewed. Updated ratings are assigned as warranted, based on current conditions.

Monitoring Partners – U.S. Forest Service and Tahoe Regional Planning Agency

Programs and Actions Implemented to Improve Conditions – The *Code of Ordinances* specifies design standards and guidelines for new development and redevelopment projects. The U.S. Forest Service designs new recreation facilities in compliance with their national Built Environment Image Guide. The Scenic Quality Improvement Program identifies a host of projects (actions) that are necessary to improve scenic conditions in areas where needed, to facilitate achievement of adopted scenic threshold targets. As necessary, specific measures to improve the aesthetics of individual projects are sometimes required by TRPA as a condition of the permit that is issued.

Effectiveness of Programs and Actions – Scenic status and trend data for this indicator (at or somewhat better than target, with little or no change) suggests that currently implemented programs (e.g., EIP) and actions implemented (e.g., updated building design standards), overall, have improved scenic conditions. However, some units remain out of attainment and need to be addressed.

Recommendations for Additional Actions – Continue existing programs and actions. Continue to monitor status and trend of scenic conditions.

Built Environment (Community Design)

The Threshold Standard associated with the Built Environment Indicator Reporting Category (often referred to as “Community Design”) is a Policy Statement that applies to the built environment, and is not restricted to roadways or shoreline units. As stated in TRPA Resolution 82-11, *“It shall be the policy of the TRPA Governing Body in development of the Regional Plan, in cooperation with local jurisdictions, to insure the height, bulk, texture, form, materials, colors, lighting, signing and other design elements of new, remodeled and redeveloped buildings be compatible with the natural, scenic, and recreational values of the region.”* To achieve this Threshold Standard, TRPA must support efforts to adopt programs, design standards, and guidelines that address these aspects of development; site planning to preserve native vegetation, building height to limit view blockage and protrusion above the forest canopy, and architectural design guidelines related to colors, form, and materials, to ensure that development is compatible with the overall natural setting. Such programs, standards, and design principles must then be widely implemented in projects that are reviewed and approved by TRPA and local government, to improve the scenic roadway and scenic shoreline units. Progress will be made toward achieving the Community Design Threshold Standard, as more development and redevelopment projects conform to design standards and guidelines.

Has TRPA adopted policies, regulations or implemented other programmatic efforts to satisfy the Policy Statement adopted in Resolution 82-11?

Design standards and guidelines, and other programs, have been adopted by the TRPA Governing Board, and are currently implemented through the Environmental Improvement Program, the *Code of Ordinances*, the Scenic Quality Improvement Program (TRPA 1989), and in the adopted Community Plans (TRPA 1987b). These documents provide specific implementation direction that directly responds to the adopted Policy Statement. In addition, the *Regional Plan* Goals and Policies (TRPA 1986) contain a Community Design sub-element within the Land Use Element, which sets forth policies for new and existing development. The following goals in the *Regional Plan* guide implementation of the Threshold Standard.

- Goal One - Insure preservation and enhancement of the natural features and qualities of the Region, provide public access to scenic views, and enhance the quality of the built environment
- Goal Two - Regional building and community design criteria shall be established to ensure attainment of scenic Threshold Standards, maintenance of desired community character, compatibility of land uses, and coordinated with project review.

The Policy Statement of the Community Design Threshold Statement is implemented in two ways. First, design standards and guidelines that are tailored to the needs and desires of individual communities have been developed and made part of their community plans and redevelopment plans. These standards are considered “substitute” standards because they replace all or portions of TRPA ordinances that regulate the same subject area. This process has been used extensively throughout the Region to provide community-specific sign standards, yet it has also addressed issues such as building height and architectural design guidelines. Placer County, Washoe County, Douglas County, and the City of South Lake Tahoe have adopted substitute standards. Secondly, the more general site planning and design principles in the *Code of Ordinances*, and design guidelines in the *Regional Plan*, are applied to individual development or redevelopment projects, and are reviewed and approved by TRPA and local governments.

Is there evidence to suggest these actions are effective at achieving the intent of the Policy Statement?

The contribution of improvements to the built environment toward attainment of travel route and scenic quality ratings is clear. As of 2011, travel route ratings are, overall, at or better than their target values, and showed a trend of moderate improvement. This is evidence that actions taken by TRPA were effective at achieving the intent of the Policy Statement. Also, positive changes in the built environment, central to the evaluation of the community design threshold, are recognizable in many places in the Lake Tahoe Basin. Visual evidence that the Community Design Policy Statement is being achieved can be seen firsthand in numerous places. The most notable improvements are seen in the urban and commercial centers. The number and prevalence of development and redevelopment projects that conform to applicable design Threshold Standards and guidelines, indicates the high degree of success in achieving the Community Design Threshold Standard. As more development and redevelopment projects are implemented, the aesthetic and visual quality of the built environment will continue to improve because projects are not approved by TRPA unless project proponents can demonstrate compliance with scenic design requirements.